

REMARKS

The Office Action mailed January 3, 2007 has been carefully considered and the following response prepared. Claims 14-18, 20-26, 29-37, 40 and 41 are pending in the application.

At page 2 of the Office Action, the Examiner rejected claims 14-18, 20-26, 29-37, 40 and 41 on the ground of nonstatutory obviousness-type double patenting over claims 1-25 of U.S. patent No. 6,177,264. The Examiner alleged that the claims of the present application are not patentably distinct from the claims of the '264 patent because the claimed transformed microorganism and claimed methods for production of L-valine of the present application are obvious variations over the patent claims to the isolated polynucleotides from *Corynebacterium* encoding panB, panC, and ilvBNCD and methods using microorganisms comprising such polynucleotides. The Examiner alleged that Examples 1-8 of the '264 patent provide support for the patent claims, and, citing *In re Vogel*, 164 USPQ 619 (CCPA 1970), that these portions of the specification can be considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent.

Applicants traverse this rejection. In the present Office Action the Examiner asserted that claims 14-18, 20-26, 29-37, 40 and 41 are obvious variations over claims 1-25 of U.S. Patent 6,177,264 patent based on the disclosures of the '264 patent.

In determining whether a nonstatutory basis exists for a double patenting rejection, the claims of the application and the claims of the patent are compared to determine whether the claims of the application are merely an obvious variation of an invention claimed in the patent. Moreover, when considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. *General Foods Corp. v. Studiengesellschaft Kohle GmbH*, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). According to *In re Vogel* those portions of the specification which provide support for the patent claims may also be examined and

considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. MPEP 8.04, part II B.1

The '264 patent contains twenty-five claims. Claims 1-11 are directed to isolated polynucleotides from *Corynebacterium* encoding the panB gene product or panC gene product, or both, vectors comprising the polynucleotides, and microorganisms comprising the vectors. Claims 12-20, 24 and 25 (in part) are directed to methods for producing pantothenic acid. Claim 12, the only independent claim, requires the step of transforming a vector comprising a panB gene and a panC gene into a microorganism. Claims 21-23 are also directed to methods of producing pantothenic acid. Claims 21 and 22 require inserting an expression cassette upstream from the panB and panC genes in *Corynebacterium*. Claim 23 requires the step of increasing the stability of the mRNA which is translated from the panB and panC genes and/or the step of preventing the degradation of the panB and panC gene products.

By contrast claims 14-17 and 41 of the present application are directed to a microorganism transformed with a nucleotide sequence encoding dihydroxy acid dehydratase (ilvD), nucleotide sequences encoding acetohydroxy acid synthase and isomeroreductase (ilvBNC) or both ilvD and ilvBNC, in which microorganism the activity of one or more enzymes that are specifically involved in the synthesis of D-pantothenate is reduced or eliminated, wherein the one or more enzymes are selected from the group consisting of ketopantoate hydroxymethyl transferase (panB), pantothenate ligase (panC), ketopantoic acid reductase (panE) and aspartate decarboxylase (panD) and the activity of the one or more enzymes is reduced or eliminated as a result of deletion of all or a part of the nucleotide sequence encoding the enzyme in the microorganism, and wherein the microorganism is a *Corynebacterium* species and the nucleotide sequence encoding ilvD comprises the portion of SEQ ID NO: 1 encoding ilvD.

The claims of the '264 are not identical to claims 14-17 and 41 of the present application, nor are claims 14-17 and 41 of the present application an obvious variation of any of the claims of the '264 patent. Claims 10 and 11 of the '264 patent, which are

directed to microorganisms, require a vector comprising a nucleotide sequence encoding panB or panC. The transformed microorganism used in the methods of claims 12-20, 24 and 25 also require transformation with a vector comprising a nucleotide sequence encoding panB and panC. There is nothing in any part of the '264 patent that supports the claims thereof suggesting a variation of the claimed invention wherein the microorganism is not transformed with panB and/or panC. The microorganisms of claims 14-17 and 41 do not require a vector comprising a nucleotide sequence encoding panB or panC. It is improper to use the disclosure in the '264 patent of certain nucleotide sequences and mutant *Corynebacterium glutamicum* strains in the examples as prior art to reject the claims of the present application.

Claims 18, 20-26, 29-37 and 40 are directed to methods of producing L-valine. Claims 12-25 of the '264 patent, however, are directed to methods for producing pantothenate, a different substance. There is no suggestion in any part of the '254 patent of a method of producing L-valine.

In summary, claims 14-18, 20-26, 29-37, 40 and 41 are patentably distinct from claims 1-25 of the '264 patent. Claims 14-18, 20-26, 29-37, 40 and 41 are neither identical to claims 1-25 of the '264 patent, nor obvious variations. Withdrawal of this double patenting rejection is respectfully requested.

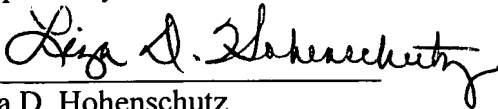
In view of the above, the present application is believed to be in a condition for allowance. Reconsideration of the application is requested and an early Notice of Allowance is earnestly solicited.

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(302) 658-9141
(302) 658-5614 (Fax)

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Respectfully submitted,

By 
Liza D. Hohenschutz

Registration No.: 33,712
CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street
P.O. Box 2207
Wilmington, Delaware 19899
Attorney for Applicant